DOCUMENT RESUME

ED 376 405 CG 025 811

AUTHOR Priest, Robert F.; Beach, Johnston
TITLE Stability of Findings in Longitudinal Studies of College Impact.
PUB DATE 23 Aug 93
NOTE 20p.; Paper presented at the Annual Meeting of the American Psychological Association (101st, Toronto, Ontario, Canada, August 20-24, 1993).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *College Environment; *College Outcomes Assessment; *College Students; Cross Sectional Studies; Higher Education; Individual Development; *Longitudinal Studies; Outcomes of Education; Student College Relationship; *Student Development; Young Adults
IDENTIFIERS *Cadet Corps; *Military Academy (West Point) NY

ABSTRACT

Interest in the developmental impact of college has intensified in recent years. However, researchers usually overlook one key to understanding this impact: longitudinal studies. For this investigation, data was gathered from four class cohorts, over a 17-year period, at the United States Military Academy (USMA). The results indicate that cadets undergo remarkably consistent developmental changes. These changes remained stable in spite of dramatic alterations within the USMA environment. This stability allows for generalization to future cohorts of cadets. Likewise, the comparison of cadet changes to those shifts experienced by students from other colleges suggests that while some development arises from specific factors unique to the USMA's culture, college students seem to undergo predictable developmental changes which are independent of the specific nature of the college experience. Most college students suffer disequilibrium and must come to terms with the diversity inherent in attending a college or university. By understanding the developmental impact of various factors within a college environment, educators may more effectively accomplish the academic missions they set for their particular institution. Contains 20 references. (RJM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 376 405

Stability of Findings in Longitudinal Studies of College Impact

Robert F Priest, Ph.D.
Johnston Beach, Ph.D.

United States Military Academy
West Point, New York

Paper Presented to the 101st Annual meeting of the American Psychological Association, Toronto Canada
Monday August 23, 1993

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
R. PRIEST

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Note: The opinions in this paper are those of the authors and do not purport to represent the positions of the United States Military Academy, the Department of the Army, or of the Department of Defense.

CG025811

BEST COPY AVAILABLE

Abstract

Prior work on longitudinal research design (Applebaum & McCall, 1983) has not addressed the stability of longitudinal findings. Using the Scott Values Inventory (1965), four cohorts of students at the United States Military Academy provided repeated measures of their values from entrance to graduation. Findings for all four classes were strikingly consistent. The stability was remarkable in view of extensive changes in curriculum and student body during the 17 years of this study. It seems one longitudinal study can generalize to future cohorts of students entering college. The findings also indicate college students undergo predictable developmental changes which are independent of the specific nature of the college experience.

Stability of Findings in Longitudinal Studies of College Impact

Interest in the developmental impact of college has intensified in recent years. Chickering (1969), Perry (1970), Astin (1977), and Pascarella and Terenzini (1991), have all written books aimed at describing, clarifying, and understanding the effects of college attendance. One key to understanding the impact of college is to conduct longitudinal studies. There have been some useful discussions of how to design and conduct longitudinal research (Applebaum & McCall, 1983; Stouthamer-Lober, van Kammen, Lober, 1992). However, few longitudinal studies have actually been done. Moreover, none of these authors has addressed the stability of findings from a longitudinal study of a single cohort. This paper does just that and in doing so helps to answer the basic historical question: are the changes within one cohort generalizable to other cohorts at the same institution?

The purpose of the United States Military Academy (USMA) is to "Develop leaders of character who serve the common defense" (reference). For this reason, over the past 17 years USMA has conducted four separate longitudinal studies of the development of student values. The same instrument was used throughout.

Method

Cadets in four classes: 1979, 1981, 1991, and 1992 were repeatedly measured at various intervals between their arrival and graduation. Although a variety of self-report surveys were used to define and measure personal values in separate cohorts, all completed the Scott Values Inventory (SVI; Scott, 1965). The SVI has strong evidence of construct validity (Robinson and Shaver, 1970) and therefore, was deemed an appropriate choice for long-term use.

In the SVI, each of twelve dimensions of moral value ideals are represented by six to twenty behaviors. Each behavior is stated as a positive or as a negative example of the value. Respondents are asked if they "always admire" the behavior, "always dislike" it, or if their attitude toward the behavior "depends on the situation." The items were originally calibrated so approximately 50% of the responses would be coded as "always admire" for positive examples or "always dislike" for negative behaviors, indicating moral value adherence.

In the values studies of the Classes of 1979 and 1981, twelve 20-item scales developed by Scott (1965) were used. The scales measured honesty, social skills, academic achievement, physical development, status, intellectualism, kindness, self-control, religiousness, creativity, and independence (see Priest, 1979a; Priest 1979b; Priest 1982;

Priest, Fullerton, & Bridges, 1982, for more details about the methodology of these earlier studies). The 20-item scales were found to be too long, so 6-item versions of the scales were developed (Priest, 1980). Scales for creativity and loyalty were judged, on the basis of content, to be less important in the design of the 1991-1992 studies. Honesty was thought to be very important, and an 18-item honesty scale was included in the 1991-1992 questionnaire. Cadets were asked to "indicate (by marking in the appropriate space) whether it is something you always admire in other people, or something you always dislike, or something that depends on the situation whether you admire it or not."

The Scott value scales were scored by counting one point for each "always admire" response to a positive exemplar of the value, or by responding "always dislike" to a negative exemplar of the value. There were an equal number of positive and negative exemplars for each of the Scott value scales. In the 1991-1992 cohorts, for 9 of the scales, the possible scores ranged from 0 to 6. For the honesty scale, the possible scores ranged from 0 to 18. Each of the scales was then rescored to rule out the effect of an occasional omitted response to an item. Rescoring was accomplished by dividing each total score by the number of items answered for that scale. As a result, each of the 10 scales ranged from 0.00 to 1.00, with 1.00 indicating a maximum possible score. In the rare case that an individual did not answer any of the items on a particular scale, the score for that scale was assigned the standard missing value code (i.e. "99"). Scores with a missing value code were not included in statistical analysis of the data. This was accomplished by pairwise deletion.

Results

The point of this analysis is to examine the stability of mean changes. This analysis, therefore, focuses on mean changes in value scores from entrance to graduation. Table 1 shows the mean change from entrance to graduation on the ten scales of the SVI for each of the four longitudinal studies. Change is expressed in terms of the standard deviation of difference scores, a measure analogous to Cohen's D (Cohen, 1969). Statistical significance within each individual longitudinal study was assessed by means of a repeated measures t-test. Table 1 shows the findings from any one cohort are generally consistent with those from another. For example, all four longitudinal samples showed a large negative change in the value placed on academic achievement; Similarly, cadets showed consistently negative changes in their valuing of self-control and social skills. Changes in honesty, kindness, religiousness, and status were negative, except for the Class of 1991. Changes in independence, intellectualism, and physical development were generally very small and close to zero.

Discussion

The consistency of the USMA findings is noteworthy given that during the period under study the institution and its curriculum experienced constant and dramatic change. For example, in the spring of 1976, over 100 cadets were suspended for honor violations. In the summer of that same year, women were integrated into the Corps of Cadets. These events were of historical proportions. In addition, the Academy underwent two accreditation self-studies (1979, 1989) and in 1982, it expanded the curriculum, and for the first time offered academic majors.

These changes also meant that while the first two samples consisted only of males, the second two included both genders. Furthermore, there was a switch from a 20-item version of the scales in the first two studies, to 6-item versions of most scales in the two most recent studies. In spite of these differences in samples and instrumentation, the data indicated USMA produced strikingly similar changes in students in the four different cohorts.

These findings suggest a single longitudinal study of college impact can generalize to future cohorts of students entering the same college, even in cases where the institution believes it is undergoing dramatic change. The explanation may be quite simple. Certainly, USMA, despite any specific changes, seeks a stable organizational culture--a distinctive ethos. It maintains many traditions for the sole purpose of perpetuating this organizational culture. Moreover, in many instances, the changes that are instituted are done so as to better insure the institutional mission of developing leaders of character. This, along with the fact USMA has a highly selected student body, a large number of core courses, and all its graduates expect to be employed in the same organization, may account for the remarkable stability found.

There is, however, evidence that other factors may be at work. In Scott's original longitudinal study (1965) at the University of Colorado, he obtained results similar to those found in the present study (see Table 2[1]). And although it is reasonable to hypothesize that all colleges undergo constant change and at the same time strive to maintain a particular organizational culture, the similarities in these findings also suggest college students undergo predictable developmental changes which are independent of the specific nature of the college they attend. If this is the case, then the observations made at USMA and the University of Colorado are not only generalizable to future classes entering those particular institutions but to college students in general.

Perry (1970) along with Pascarella and Terenzini (1991) help account for the generally negative trend on some of the scales. These authors indicate students progressively

change in their ability to reason critically. Characteristic of this increased cognitive capacity is less reliance on authority and dualistic thinking. Rather, the context in which behaviors occur becomes as important as the behaviors themselves. Thus, the less likely one is to indicate "always" admiring or "always" disliking any particular behavior.

The common negative trend may also reflect an ebbing of idealism and an increasing sense of realistic expectations. Astin (1977) studied 25,000 students attending colleges from 1966-1970. His measure of value required students to rate the importance of certain life goals. Astin found that the percentage of students who checked each value as essential or very important declined during the four years after matriculation. He suggested one reason for this decline "may be the unrealistic aspirations of many entering freshmen, who may endorse rather uncritically a wide range of life goals" (p. 48). With time, high hopes give way to reasonable expectations.

That many of the observed changes seem characteristic of all college students regardless of the particular institution, is not to suggest that these changes are maturational or independent of *a* college experience. Rather, it suggests the commonalties of *the college experience*, out weigh the impact of any specific program or institution in which a student enrolls. It is also not to say that a particular college or educational environment could not be created to foster other changes. Priest and Beach (1988) reported on the changes in values during the two month period of Cadet Basic Training. For the Classes of 1981 and 1991, the changes were almost entirely positive. This shows that cadets increased their admiration for most of the Scott values after exposure to a highly stressful and demanding military training. The contrast between these results and those in Table 1 may indicate that the enhanced freedom of an academic environment results in a concomitant increase in relativistic thinking, and therefore an overall negative effect on these values. The rigid indoctrination of military training, with its emphasis on obedience and dualistic thinking, has the opposite impact. Further support for this contention lies in the fact that these positive changes on the SVI, were quickly erased once cadets became involved in USMA's academic program. Paradoxically, a negative trend on the SVI, seems to indicate enhanced reasoning and therefore, cognitively speaking, development in a positive direction.

The decreases cannot, however, be attributed entirely to either a general increase in situation-dependent evaluation, or to unrealistic expectations. For example, cadets do not show any increase in situationally relative responses to questions on physical development, or

independence. The content of value questions does make a difference. Thus, neither growth in critical thinking, nor loss of idealism, can account for all changes in value scores. A more in depth look at each value change may be warranted.

Academic Achievement

The strong decrease in value for academic achievement among USMA cadets is similar to a decrease observed in students at the University of Colorado (Scott, 1965). There is also evidence from other studies. At one highly selective midwestern college, freshmen reported very high decreases in aspirations for "making at least an A- grade" (Wallace, 1964). Similarly, Astin (1977) found a strong decrease in the percentage of students who believe it is important to become "an authority in a special subject in my own field" (p 49).

The decrease in aspiration for high grades is not surprising, because it is consistent with increased realism. As students become familiar with what they can achieve in the competitive world of college academics, their high-school based expectations are seen to be less realistic and less attainable. In interviews, 19 cadets in the Class of 1991 were shown data for their class regarding changes in academic achievement. Most agreed the decrease in academic achievement values were genuine, and not an artifact of the survey method. The cadets pointed out that given the demands on cadet time, it was often difficult to pursue academic excellence.

Intellectualism

USMA cadets had relatively high scores on intellectualism upon entrance. This value remained constant throughout their four years, except for a slight decline manifested by the Class of 1991. In general, one would expect the college atmosphere to be one that fosters a high value on this measure.

The content of the intellectualism scale may give some clue as to the nature of the changes among USMA cadets. A detailed analysis of responses of the Class of 1991 to specific items shows the pattern of change. Cadets maintained a strong admiration for "Keeping abreast of current events" throughout the four years, up until the very last of nine tests. Cadet interest in current events is maintained at a high level by the tradition of quizzing plebes on their knowledge of the front page of the New York Times. Perhaps the drop-off in interest in current events reflects graduating cadets' awareness that they will no longer be involved in this informal system of quizzing on current events. Nevertheless, at graduation 75% of the Class of 1991 still reported they "Always Admire" keeping abreast of current events.

Social Skills

"Social Skill" focuses on learning conventional rules of politeness and good manners that allow one to get along well in middle class society. There is reason to believe these values should be very important in a military organization. Nevertheless, the data show that USMA cadets decreased significantly and consistently in all four classes. A similar decrease is seen among University of Colorado students. It is interesting, however, that this decrease was only true of male students at Colorado. The fact USMA is 90 percent male may account for the decrease found. Why this occurred only among males is left to speculation. It may represent a form of rebellion. Certainly, cadets may get tired of always worrying about how they behave. This could be symptomatic of either a break down in socialization or confirmation of the "aggressive, independent" officer West Point hopes to develop. In their overt behavior, cadets invariably impress visitors as being very polite and well-behaved. The small decrease in valuation of social skills could be a reaction to very high standards of behavior they are expected to display in this area. Finally, at graduation, cadets still value social skills fairly highly. For example, over 80% "always dislike" being "discourteous."

Self-Control

The self-control values scale includes a number of items which focus specifically on anger and its control: "Not expressing anger, even when one has a reason for doing so;" "Never losing one's temper, no matter what the reason;" "Replying to anger with gentleness." The data show that cadets consistently decrease their admiration for such behavior over time. This value is probably functional for people in a subordinate status. Anger expression is more dysfunctional for subordinates than for their superiors (Priest and Beach, 1988). Sometimes, perhaps frequently, however, expression of anger by a leader gets results. So as cadets assume leadership roles after their first year in a subordinate status, they might be expected to have less need for self-control of the kind measured by the SVI. Inventory items such as, "Not expressing anger, even when one has reason for doing so," suggest passivity. Such behavior is not encouraged at the Military Academy. Indeed, assertiveness, if not aggressiveness, is explicitly fostered as cadets advance toward graduation. There was no corresponding decline in the value placed on self-control among the University of Colorado samples. It is quite possible, therefore, that the systematic changes in rank and the explicit chain-of-command that characterize the West Point experience, are examples of unique environmental factors that have a specific developmental impact.

Honesty

The general downward trend in the value placed on honesty seems at first alarming. This is especially true given West Point places a very high value on this trait and the institution's stated mission is the development of "leaders of character." Even the findings among studies of cadets seem inconsistent.

In a study of the West Point Class of 1981, Priest and Bridges (1983) found cadets and officers consistently ranked "honest" at the top of the hierarchy of instrumental values on the Rokeach value scales. The apparent difference in the reported value placed on honesty, therefore, may well be the result of how this value is assessed. Honesty items on the SVI set a very rigid standard. For example, in some cases respondents must choose between absolute honesty and protecting a friend. It is known from other studies of cadets (Special Commission of the Chief of Staff, 1989) that they have difficulty choosing absolute honesty when it conflicts with the norms of loyalty and friendship. And again, one would expect absolute responses to give way to more relativistic ones as students' ability the think becomes more differentiated.

When shown the data, cadets in the Class of 1991 were not surprised by the results on the Scott Honesty scale. One of the statements on the Honesty scale is : "Never telling a lie, even though to do so would make the situation more comfortable." One cadet pointed out that telling a "white lie" was sometimes a desirable exercise of social tact. With increases in relativistic thinking, intent becomes as crucial a consideration as the behavior itself. This is supported by Hyman and Wright (1979) who completed a secondary analysis of 38 national sample surveys from 1949 on. They found "Among the highly educated, [honesty] is sometimes pushed out of the hierarchy by other values regarded as equally or more important" (p 31). Countering this explanation, however, is the fact that only one of the four University of Colorado samples exhibited this negative shift.

Religiousness

Scott (1965), as well as Pascarella and Terenzini (1991), reported on decreased religiousness in students. Similarly, Astin (1977) found a decrease in denominational affiliation. The USMA data is consistent with all these studies. In addition, the content of the SVI scales may also play a role. The items were worded to reflect the general ways College students in the 1950's expressed their values. Some of the items on the SVI religiousness scale seem particularly tied to the language and phraseology of the 1950's, and not particularly appealing, even to religiously committed students of the 1990s. For example, "Being an atheist" is keyed as "always dislike." Though they perhaps find atheism unacceptable, some truly religious

people express positive, accepting attitudes toward atheists, and thus would score low on the SVI religiousness scale.

Interviews with cadets support this contention. Furthermore, "having faith in a being greater than man," keyed for "always admire" on the SVI religiousness scale, may strike today's religiously committed student as an overly vague statement, and therefore not worthy of unequivocal admiration. Certainly, as students become more aware of world and historical events, there are ample incidence of perverted faith being the cause of much misery and destruction. Moreover, the increased exposure to diversity, characteristic of most college students' experience, should tend to make them more tolerant of people who think--and believe differently from themselves.

Kindness

The impact college has on one's expression of kindness in unclear. Astin (1977) observed an increase over four years in the importance students attribute to "helping others in difficulty." Yet on another indicator of kindness, he found students decreased over four years. As shown in Table 2, male fraternity members at the University of Colorado also decreased in kindness. Pascarella and Terenzini (1991) refer to a number of studies using Allport's Social Values Scale. Some studies show an increase in social values, but most do not. Referring to actual charitable behavior, Bowen (1977) states: "college apparently has little if any impact on such qualities as altruism, kindness, generosity, friendliness, and helpfulness" (p. 133). Thus, the literature on kindness and related values is marked by inconsistency.

Data from the present study indicate that although at graduation cadets place a high value on kindness, it is still lower than their valuation of it upon entering USMA. The content of the Scott Kindness scale may give some understanding. Just prior to graduation, members of the classes of 1991 and 1992 had a very high admiration for all of the following: "Being concerned about the happiness of other people;" "Going out of one's way to help someone new feel at home;" and "Finding ways to help others less fortunate than oneself." These items were all positively keyed. Even though cadets decreased in kindness over four years on these items, one can see that they remain at a high level of kindness. There were two negatively keyed items that showed particularly large decreases. The percentage of cadets who always dislike "hurting other people's feelings;" or "ridiculing other people" declined at least 10% in both classes. In their efforts to accomplish *the mission* Leaders sometimes have to risk hurting other people's feelings. And although one would hope this would not take the form of ridicule, unfortunately inexperienced leaders sometimes fail

to differentiate frankness from humiliation. Rather than focusing on the behavior, they focus on the person. Thus, part of the decrease in cadet valuation of kindness may be related to requirements of the role of being a leader and their need for continued development even after graduation. This would not however, account for the decreases found in samples from other colleges. Perhaps this indicates a need for colleges to reflect more carefully upon their specific developmental environment to determine the cause of what most would find to be an undesirable consequence a student's four year experience.

Status

Cadets decrease in their valuation of Status. The content of the SVI Status scale may provide some insight into why USMA cadets' value for Status may have decreased. For both the Class of 1991 and 1992, about 70% of the cadets at entrance and upon graduation marked "always dislike" on the item "being unable to exert any influence on things around oneself." Although military leaders sometimes do face uncontrollable situations, it is clear cadets maintain a strong value on personal control. By definition, leadership entails influencing others. And cadets are continuously rated on the degree to which they succeed in this particular leadership behavior. In contrast, on another item, cadets in both classes showed a marked decrease: "Not taking pride in one's achievements." Cadets decreased from about 70% to about 45% in both classes in "always disliking" this. This latter item may reflect a conflict between the value of pride in individual achievement and the value of selfless service. Cadets learn early to avoid boasting of personal fame, but rather to take pride in the accomplishment of the organizational unit with which they are associated. In part, decreases in the status score may reflect greater cadet adherence to the competing value of selfless service. This same phenomenon may be operating among the University of Colorado fraternity pledges. Their shared position of low status and the pressures common to their initiation acts to draw them closer together as a group. This sense of cohesion, similar to that fostered by military units, lends itself to putting the good of the group over individual gain; and taking pride in the group's accomplishments over those of any individual. The difference is, that at the completion of four years, it seems, students at civilian institutions are more inclined to see individual accomplishment more adaptive to the individualistic competition which characterizes civil society. Thus, the decreased value placed on status is most likely the result of unique aspects of the USMA culture. Perhaps the data from the University of Colorado would be more characteristic of most civilian institutions.

Physical Development

Astin (1977) found a decline in athletic interests as students progressed through college. However, both the USMA and University of Colorado samples showed no such decline in the value placed on physical development. Perhaps Astin's measure of "athletic interest" is not comparable to Scott's measure of physical development.

It is not surprising cadets maintain a high value on physical development. Physical development is an integral part of the West Point program. All cadets are required to participate in physical development programs all four years. Moreover, the occupation they enter upon graduation continues to demand regular proof of physical proficiency. Indeed, because of the strong emphasis on athletics and physical fitness one would expect cadets not only to maintain their valuation on this measure but to rate it more highly than students at other schools. This, in fact, seems to be the case. Keep in mind that what is being measured here are *change* scores, not absolute values. Closer examination of the USMA data (Priest, 1993) indicates West Point cadets place a higher value on physical development than do students from other colleges.

Independence

Most developmental theories place a strong emphasis on the development of autonomy among college students. It is considered the hallmark of intellectual and moral maturity. One, therefore, might hope for an increased value on this measure as students progress toward graduation. And just such an increase was manifested by the University of Colorado students. USMA cadets, however, showed no change. Furthermore, they placed a low value on independence when compared to students at other universities (Priest, 1993).

The lack of change and the low value placed on independence may not be as much an indictment of USMA as the initial impression might suggest. Again, closer examination of the SVI items offers an explanation. The positively worded items focus on "being a non-conformist," on "thinking and acting freely without social restraints," and on "living one's own life, independent of others." All these seem more measures of non-conformity than self-sufficiency. Cadets are more likely to think in terms of interdependence. Even innovation, would in all likelihood, conform to the commander's intent. That is, it would be in the interest of accomplishing the organization's goals and missions. To cadets, the SVI items may reflect a lack of discipline rather than traits such as self-confidence and behaviors such as taking personal responsibility for one's actions. It is not surprising, therefore, they tend to take a dim view of these statements.

Summary

Data gathered over 17 years from four class cohorts at USMA, indicate cadets undergo remarkably consistent

developmental changes. These changes were stable in spite of dramatic changes within the West Point environment. This stability allows for generalization to future cohorts of cadets. Furthermore, comparison of cadet changes to changes in students from other colleges suggested while some development is the consequence of specific factors unique to the Military Academy's culture and academic environment others are more likely attributable to the impact of a college experience in general. For example, most college students suffer disequilibrium and must come to terms with the diversity inherent in attending a college or university. Understanding the developmental impact of various factors within a college environment will enable educators more effectively to accomplish the academic mission they set for their particular institution.

References

Applebaum, M. & McCall, R. (1983) Design and Analysis in Developmental Psychology. In W. Kessem (Ed.) Handbook of Child Psychology (Fourth Edition, Vol I: P. Mussen General Ed.) New York: Wiley, 1983, (p 415-476).

Astin, A. (1977) Four Critical Years: Effects of College on Beliefs, Attitudes, and Knowledge. San Francisco: Jossey-Bass.

Bowen, H. (1977) Investment in Learning: The Individual and Social Value of American Higher Education. San Francisco: Jossey-Bass

Chickering, A. (1969) Education and Identity. San Francisco: Jossey-Bass.

Cohen, J. (1969) Statistical Power Analysis for the Behavioral Sciences. New York: Academic Press.

Pascarella, E. and Terenzini, P. (1991) How College Affects Students: Findings and Insights from Twenty Years of Research. San Francisco: Jossey-Bass.

Perry, W. (1970) Forms of Intellectual and Ethical Development in the College Years: A Scheme. New York: Holt, Rinehart, & Winston.

Priest, R. (1979a) Changes in the Moral Values of the Class of 1979: Interim Report. Office of Institutional Research Report 79-05, West Point New York: United States Military Academy.

Priest, R. (1979b) Four-Year Changes in Cadet Values, Class of 1979. Office of Institutional Research Report 79-15, West Point New York: United States Military Academy.

Priest, R. (1980) Validity of the Scott Value Scales in Relation to Other Values, Behavior, and Moral Reasoning. Office of Institutional Research Report 80-07b, West Point New York: United States Military Academy.

Priest, R. (1982) Four Year Changes in Cadet Personal Values, Class of 1981. Office of Institutional Research Report 82-02, West Point New York: United States Military Academy.

Priest, R. and Bridges, C. (1983) Development of Values and Moral Judgments of West Point Cadets. Office of Institutional Research Report 83-02, West Point New York: United States Military Academy.

Priest, R. and Beach, J. (1988) Cadet's values, changes after Basic Training: a Ten-year comparison. Paper presented at the 96th Annual Meeting of the American Psychological Association, Atlanta, Ga.

Priest, R., Fullerton, T., and Bridges, C. Personality and Value Changes in West Point Cadets. Armed Forces and Society, 1982, 8, 629-642.

Priest, R. (1993) Value Change in the Classes of 1991 and 1992. Unpublished Manuscript, Office of Institutional Research, West Point New York.

Robinson, J. and Shaver, P. (1970) Measures of Social Psychological Attitudes: Appendix B to Measures of Political Attitudes. Ann Arbor: Survey Research Center Institute for Social Research.

Scott, W. (1965) Values and Organizations: A study of Fraternities and Sororities. Chicago: Rand McNally, 1965.

Special Commission of the Chief of Staff (1989) Final Report on the Honor Code and Honor System at the United States Military Academy. Office of the Superintendent, United States Military Academy, West Point, NY.

Stouthamer-Loeber, M., van Kammen, W., and Loeber, R. (1992) Researchers' Forum: The nuts and bolts of implementing large-scale longitudinal studies. Violence and Victims 7, No 1, Springer Publishing, 1-16.

Wallace, W (1964) Institutional and Life Cycle Socialization of College Freshmen. American Journal of Sociology, 70, 303-318.

---

[1] Table 2 is a meta-analysis of data from four samples of students at the University of Colorado. The samples consisted of men students pledging one of six fraternities; men who were active members of the same fraternities; women students pledging one of four sororities; and women students who were active members of those same sororities. Generally active members of a fraternity are older than pledges, and may differ in other ways. The measure of change is the mean difference between standardized group means (Scott, 1965, p 195 and p 210). Thus, it is not on the same metric as the mean changes reported in Table 1. Furthermore, the exact composition of the scales used for the original studies is not the same as the ones used at USMA, although both studies used items from a common pool developed by Scott. In spite of the differences between Scott's study and ours, the correlation between the pattern of changes is high: .778.

TABLE 1
Summary of Net Changes[a]
In USMA Cadet Values Over Four Years

Scale - Description	1979*b*	1981*b*	1991*c*	1992*c*	Weighted Average
Academic Achievement: Studying a great deal & working hard to get good grades	-.84*	-.92*	-.99*	-.87*	-.92
Intellectualism: Having strong intellectual & cultural interests, trying to learn even even through the knowledge may not be useful.	-.19	.11	-.14*	-.05	-.09
Physical Development: Being a well-developed outdoors type who enjoys physical activity.	-.05	.03	.06	-.08	.02
Status: Having strong leadership qualities, being respected by others & gaining recognition for one's achievements.	-.28*	-.18	-.49*	-.52*	-.42
Social Skills: Being charming, popular, well-mannered & getting along with all kinds of people.	-.38*	-.25*	-.34*	-.39*	-.35
Kindness: Being mostly concerned about other people; doing good for them, & trying to make them happy, even if it is against one's own interests.	-.28*	.01	-.32*	-.37*	-.28
Religiousness: Being a religious person, both in belief & practice; attending church regularly; & abiding by the Bible's teachings.	-.40*	-.22	-.37*	-.38*	-.36
Self-control: Always being patient & self-controlled; never losing one's temper, no matter what the provocation.	-.81*	-.26*	-.54*	-.29*	-.49
Honesty: Always telling the truth & being completely honest; never cheating or lying, even though these might make an easier relationship with others.	-.45*	-.19	-.51*	-.30*	-.41
Independence: Being independent, outspoken, free-thinking and unhampered by by the bounds of tradition or social restraint.	-.19	.41*	.03	-.02	.02
N	**101**	**69**	**214**	**140**	

a Net change is measured in standard deviation units from entry to just before graduation.

b These year groups tested with 20 item scales.

c These year groups were tested with 6-item scales for all scales except honesty, which used an 18 item scale.

* $p < .05$